

LEARNING/TEACHING

Developing Appropriate Community-Based Postgraduate Training in a Developing Country

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ABSTRACT *The School of Medical Sciences, KNUST, established in 1975, indicated its educational orientation to a community-based and community-oriented system using the problem-based learning approach. Falling victim to the phenomenon of brain-drain, the School developed a postgraduate medical curriculum which takes into account the needs and demands of national governments and communities for quality specialist care and equitable distribution of existing health facilities. There is an innovative community-based fourth year for obstetrics and gynaecology, ophthalmology, otorhinolaryngology, paediatrics, surgery and medicine. After attainment of the Part I Examination, residents are sent to Ulm, Maastricht, Britain and the United States for clinical attachments for a period of 3 to 6 months before returning to sit for their Final Part II for the Fellowship of the West African College of Surgeons or Physicians (FWACS, FWACP). By ensuring that the Final Examinations take place after the elective attachment, none of the new breed of specialists so far produced has been lost to the Western world. The strengths and weaknesses of the programme are discussed.*

KEYWORDS *Community-based postgraduate training, developing countries, anti-brain drain, pro-staff development.*

Introduction

Kwame Nkrumah University of Science and Technology, Kumasi, is the home of the School of Medical Sciences, established in 1975 as the second medical

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school in Ghana. It serves the Ashanti Region, the largest of the 10 regions in Ghana as well as the other four regions in the upper part of the country.

At its inception, the School of Medical Sciences (SMS) indicated its educational orientation to a community-based and community-oriented system using the problem-based learning (PBL) approach.

Out of the average of 40 new physicians produced annually, 30% go abroad to seek greener pastures or leave the country ostensibly to pursue postgraduate training. The reasons for doctors seeking training posts in other countries are varied and may be multiple. Personal career advancement, acquisition of qualifications that are marketable at home and internationally, and the development of technical skills NOT possible to achieve at home may be the driving force for the exodus. Of the remaining 70%, a large proportion practise in urban centres. Only a few practise in areas where more than 75% of the population live. We therefore set out to develop a postgraduate medical curriculum which takes into account the needs and demands of national governments and communities for quality specialist care and equitable distribution of the existing health facilities. The University of Ghana Medical School, established in 1962, has trained 2700 doctors since its inception, while the School of Medical Sciences at the Kwame Nkrumah University of Science and Technology, Kumasi has trained 791 doctors since its inception in 1975. Altogether out of the total almost 3500 doctors between the two medical schools, only slightly more than 1000 doctors are working in the country today. The brain-drain is a disaster for Third World countries.

Doctors in our part of the world leave because of lack of adequate remunerations, lack of job satisfaction, and lack of diagnostic and therapeutic tools. In the last decade or so nearly half of the doctors trained with the tax payers' money leave for greener pastures after their housemanship training. Lack of decent accommodation outside the housemen's flats which are on the teaching hospital campuses is one of the immediate causes of despair.

With this objective in mind, it became imperative to foster the health of our community as a unifying force for our mission (Kaufman *et al.*, 1996). The effort with international support from the Royal Colleges of Britain, the American Board of Postgraduate Studies as well as the Maastricht University, Holland and the University of Ulm, Germany, was made to create, develop and sustain a programme that would retain physicians in Ghana and West Africa.

There is an innovative community-based fourth year for obstetrics and gynaecology, ophthalmology, otorhinolaryngology, paediatrics, surgery and medicine. Residents are sent to work in District Hospitals where they are visited from time to time by faculty members. This is an innovation in our postgraduate programme. Before the residents are sent to the Districts they are posted for a three month course to acquire managerial skills at the Ghana

Institute of Management and Public Administration in Accra. Since the residents are to become leaders in a medical team, we consider this new ingredient in their training programme as essential. They are then sent to the community—i.e. District Hospitals where they work independently for a period of six months under periodic supervision of faculty members.

In obstetrics and gynaecology, for example, four District capitals located in Ashanti, Central and Eastern Regions, namely, Mampong, Agogo, Nkawkaw and Dunkwa, have been carefully chosen within a radius of 60 kilometres from Kumasi. The Head of Department routinely visits these District Hospitals before residents are sent for training. Faculty members assigned to these residents rotate on team basis. In the last 3 months of the community fourth year, studies of a specific health problem, sometimes in the form of community diagnosis of a special community or as family studies, are conducted.

As members of a health team they carry out specific duties in maternal and child health services and community-based health care delivery and undertake an original study of a chosen topic which is presented in the form of a dissertation as a requirement for the fellowship examination.

After the attainment of the Part I Examination, residents are sent to Maastricht, Britain, Germany and the United States for clinical attachments for periods of 3 to 6 months before returning to sit for their Final Part II for the Fellowship of the West African College of Surgeons or Physicians (FWACS, FWACP). Out-of-country electives are mandatory for a period of 3 months in the United Kingdom, United States and Europe preferably in Germany and Holland. Arrangements have been made with the external trainers who are conversant with our Ghanaian situation to tailor the elective training to the needs and interest of our innovative postgraduate training.

By ensuring that the Final Examinations take place after the elective attachment, none of the new breed of specialists so far produced has been lost to the Western world. Indeed, these specialists know how to serve, whom to serve and where to serve.

The philosophy of this postgraduate training is summarised in the acronym PEACE: *problem-based learning (PBL)*; *early clinical exposure (ECE)*; *appropriate orientation to social needs (AOSN)*; *community-based/community-oriented education (COB/COE)*; *early community exposure and service (ECES)*.

Objective and Design

Due to growing demand for specialist care throughout the world, especially in developing countries, the health of academic institutions is linked with their success in adapting to and participating in the changing health care delivery system (Urbina *et al.*, 1997).

Following this trend, we set out to develop a community-based postgraduate training in 1987 which is cost-effective and anti-brain-drain; with the dual purpose of staff development and the provision of service to meet the needs and demands of our national governments and communities for quality specialist care. In designing this programme, we set in motion already at the undergraduate level fundamental changes in the way medical students are taught (Enarson & Burg, 1992) by using student-centred, problem-based learning in an attempt to make learning responsive to the needs of students and to make them lifelong learners.

We introduced a population perspective to the curricula, emphasising the needs of a defined population (Inui, 1996) and emphasising the programme of safe motherhood and child survival. A community fourth year very prominent in the Department of Obstetrics and Gynaecology consolidated this new perspective.

It became necessary for some graduate training programmes like general paediatrics, internal medicine, obstetrics and gynaecology, ophthalmology and otorhinolaryngology to shift residents, training to out-patient departments for some limited periods so that graduates could acquire the requisite primary care skills for future community practice.

Selection

Selection of doctors into the postgraduate residency programme is based on the following criteria:

1. the best 10% of each class chosen on the basis of:
 - continuous assessment
 - Final Part II MB ChB Examination
 - reliability of the candidate to stay for the completion of the course determined by factors like (married with children)
2.
 - the other 90% must sit for a postgraduate qualifying examination after a compulsory year's rotation in the District after the housemanship training
 - exemption from this 1 year District service can only be obtained by doctors who intend to make a career in depressed areas like pathology, anatomy and anaesthesia.

On the question of postgraduate qualifying examination, the authors feel that there are a number of questions that remain to be researched into. Should the criteria for selection favour those students who succeed in written tests or those who demonstrate excellence in clinical skills (Tan & Christiansen, 1997)?

Programme

The programme is geared towards the attainment of the Fellowship of the West African College of Physicians (FWACP) and the West African College of Surgeons (FWACS) under the academic umbrella of the West African Postgraduate Medical College with its Headquarters in Ibadan, Nigeria.

Enrolment in Postgraduate Training

Statistics available show a steady increase in the enrolment of residents as shown in Table 1.

1. The study increase in the number of residents is due to the following factors:
 - availability of prestigious professional positions as university lecturers, and consultants after qualification;
 - the innovative programme which is well structured with a better pass rate; and
 - from 1998 onwards the government agreed to pay Additional Duty Hours (ADH) to all doctors with residents and specialists receiving more than thrice of their basic salaries. This explains the high increase of residents 30% at the University of Ghana Medical School (UGMS) and an increase of 42% at the SMS from 1998 to 1999.

Table 1. Enrolment in postgraduate training

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
UGMS Established 1962	17	25	27	35	41	47	50	58	75
SMS Established 1975	5	7	7	15	26	30	35	42	60

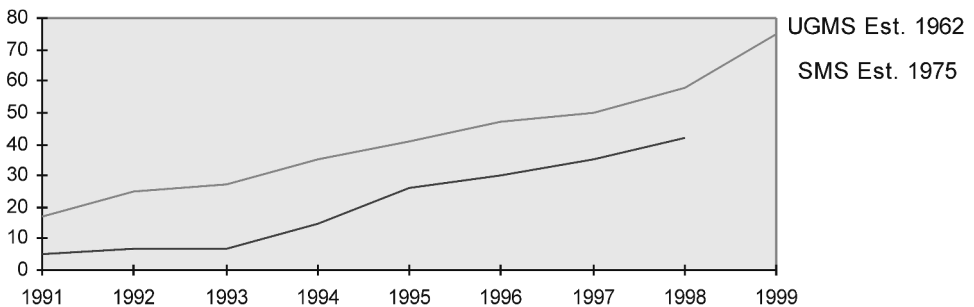


Figure 1. Enrolment in postgraduate training.

Duration of the Residency Programme

- PRIMARY: 1 year
- PART I: 2 years, including an innovative community-based fourth year
- PART II: 2 years (1 year community orientation; 1 year preparation of thesis/books)

After successful completion of the Primary Examination in Medicine, candidates are sent to the Maastricht University for 3 to 6 months before coming to complete the Part I Examination. Currently, the Council of the West African College of Physicians is debating granting the award of a MWACP. Part II could either be attained by examination or by election after a certain number of years of the membership.

In all the surgical disciplines, the overseas attachment (UK, USA, Germany Netherlands) is prescribed for successful candidates after passing the Part I Examination. Part II is also by examination and offers consultant eligibility to its holders. The innovative community-based fourth year for obstetrics and gynaecology, ophthalmology, otorhinolaryngology, paediatrics, surgery and medicine takes place in the District Hospitals where the residents are regularly visited by faculty members.

Discussion

Despite the unique challenges faced by the programme because of the many changes that are occurring in surgical/medical residency programmes today especially in the Third World, the training programme has registered an upward trend in enrolment.

Especially in developing countries, postgraduate training has been very difficult to manage, often owing to lack of appropriate facilities. Second, the initiatives for innovation, acceptance of change and management of change have often been frustrated by the brain-drain for trainees to seek greener pastures.

Third, according to Urbina *et al.* (1997), academic health centres have responded slowly, implementing some changes in the way that medical students are educated, but implementing little in the way that graduate trainees or residents are trained.

It is obvious therefore that changes in graduate medical education have not kept pace with the changes in undergraduate medical education.

Conclusion

Our postgraduate community-based training is therefore appropriately tailored to the needs of our community with the dual purpose of anti-brain-drain and

pro-staff development. With the introduction of an innovative community-based fourth year in the curriculum and the guarantee of an overseas clinical attachment in a sister university in Europe/USA, the tendency of postgraduate doctors to abandon their training to seek greener pastures elsewhere is under effective control. None of the residents so far trained (25) under the programme has been lost to the Western world.

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